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**Amendment and Response**

Applicant(s): Yates et al.

Serial No.: 10/770,797

Confirmation No.: 1476

Filed: February 3, 2004

For: COMPOSITIONS AND METHODS FOR REMOVING ETCH RESIDUE**Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

1-25. (Canceled)

26. (Canceled)

27. (Currently Amended) A composition for use in integrated circuit fabrication, the composition comprising:

at least one fluoride ion source comprising an organic cation; and

at least one organic solvent,

wherein the composition is a cleaning composition and is free of includes no more than about 3 wt-% water.

28. (Original) The composition of claim 27 wherein the fluoride ion source includes F<sup>-</sup> ions or HF<sub>2</sub><sup>-</sup> ions.

29. (Original) The composition of claim 27 wherein the fluoride ion source includes a cation selected from the group consisting of an organoammonium cation, a pyridinium cation, a quaternary organophosphonium cation, a quaternary organoarsonium cation, a quaternary organostibonium cation, a triorganocarbonium cation, and an organosulfonium cation.

30. (Original) The composition of claim 27 wherein the fluoride ion source includes a quaternary ammonium fluoride.

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31. (Original) The composition of claim 27 wherein the composition is in contact with a substrate having an etch residue on at least one surface.

32. (Original) The composition of claim 31 wherein the etch residue comprises polymeric etch residue.

33. (Original) The composition of claim 31 wherein the composition is effective to remove at least a portion of the etch residue.

34. (Original) The composition of claim 27 wherein the composition is in contact with a semiconductor structure having an etch residue on at least one surface.

35. (Original) The composition of claim 34 wherein the composition is effective to remove at least a portion of the etch residue.

36. (Original) The composition of claim 27 wherein the composition is in contact with a semiconductor structure having an etch residue on at least a portion thereof and comprising a layer comprising at least a portion of exposed metal.

37. (Original) The composition of claim 36 wherein the composition is effective to remove at least a portion of the etch residue and substantially none of the exposed metal.

38. (Currently Amended) A composition for use in integrated circuit fabrication, the composition comprising:

at least one fluoride ion source comprising an organic cation; and

at least one organic solvent,

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wherein the composition is a cleaning composition effective to remove etch residue and is free of water.

39. **(Original)** The composition of claim 38 wherein the fluoride ion source includes F<sup>-</sup> ions or HF<sub>2</sub><sup>-</sup> ions.

40. **(Original)** The composition of claim 38 wherein the fluoride ion source includes a cation selected from the group consisting of an organoammonium cation, a pyridinium cation, a quaternary organophosphonium cation, a quaternary organoarsonium cation, a quaternary organostibonium cation, a triorganocarbonium cation, and an organosulfonium cation.

41. **(Original)** The composition of claim 38 wherein the fluoride ion source includes a quaternary ammonium fluoride.

42. **(Currently Amended)** A composition for use in integrated circuit fabrication, the composition consisting essentially of:

at least one fluoride ion source comprising an organic cation; and  
at least one organic solvent,

wherein the composition is a cleaning composition.

43. **(Original)** The composition of claim 42 wherein the fluoride ion source is present in the composition in an amount of no greater than about 1.0 wt-%.

44. **(Original)** The composition of claim 42 wherein the fluoride ion source is present in the composition in an amount of no greater than about 0.5 wt-%.

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45. (Original) The composition of claim 42 wherein the fluoride ion source is present in the composition in an amount of no greater than about 0.1 wt-%.

46. (Original) The composition of claim 42 wherein the fluoride ion source is present in the composition in an amount of no greater than about 0.01 wt-%.

47. (Currently Amended) A composition for use in integrated circuit fabrication, the composition consisting of:

at least one fluoride ion source comprising an organic cation; and

at least one organic solvent,

wherein the composition is a cleaning composition.

48. (Original) The composition of claim 47 wherein the fluoride ion source includes F<sup>-</sup> ions or HF<sub>2</sub><sup>-</sup> ions.

49. (Original) The composition of claim 47 wherein the fluoride ion source includes a cation selected from the group consisting of an organoammonium cation, a pyridinium cation, a quaternary organophosphonium cation, a quaternary organoarsonium cation, a quaternary organostibonium cation, a triorganocarbonium cation, and an organosulfonium cation.

50. (Original) The composition of claim 47 wherein the fluoride ion source includes a quaternary ammonium fluoride.